

Inaugural Essay

on
Delirium Tremens

by
Joseph Pease. A.M.

Philad^a Dec^r 1828.

Passed March 5th 1829

"O that men should put an enemy in their
mouths to eat away their brains!"

Shaks

Thompson & Son

of
Chicago, Illinois

My dear Sir

I have the honor

to acknowledge

the receipt of your letter of the 10th inst.

and in reply to inform you that

the same

The subject of the present Thesis has been recognized and treated by medical writers under the various and vague appellations of delirium tremens, mania a potu, mania temulentia, brain fever and others. Instead of enumerating the objections to the above appellations, by a consideration of the vagueness and inapplicability of such terms, I shall without apiece to the claims of priority or authority adopt that term which appears to me the most unexceptionable.

That the matter of these pages may be duly appreciated, it is proper that I should premise by stating that it is the result of personal observation made during a residence of one year in the medical department of the Philadelphia Almshouse Infirmary. Whatever diversity of sentiment may exist among those who have directed their attention to the "modus operandi" of the cause in the production of delirium tremens, they may be considered as unanimous in the opinion that it is produced

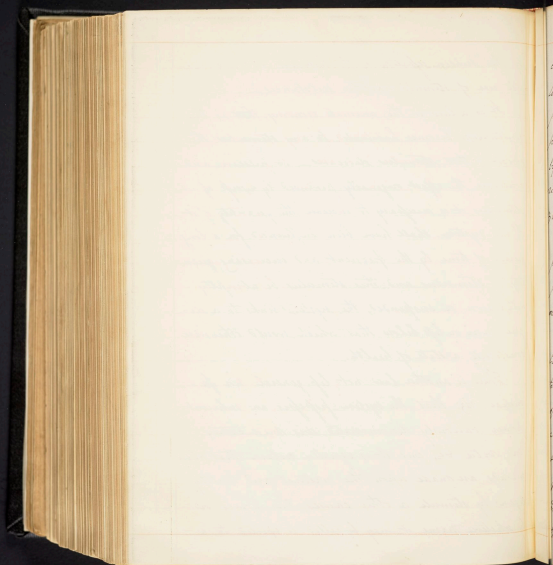
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by the "sudden cessation of the habitual and immoderate use of stimulo-narcotic substances"

It is a law in the animal economy, that as the constitution becomes habituated to any stimulus the effect of that stimulus decreases — to preserve and continue the effect originally produced by a given stimulus, it is necessary to increase the quantity of it. If the system shall have been influenced for a long period of time by the frequent and increasing quantity of stimulus and this stimulus be abruptly withdrawn or suspended, the system sinks to a degree more or less below that which would otherwise constitute a state of health.

There is another law not less general nor familiar viz: that the system possesses an inherent power variously denominated *vis medicatrix*, *vis vitæ* &c, and it is equally certain that when invasions are made upon the natural and healthy organs by stimuli or other causes, this power or by whatever name it may be called is equated to a



certain extent to control and accommod^{ate} the system to these morbid impressions. To this law or power of the system is generally attached an independent and rational agency—what I understand by it is merely a disposition in the constitution to recover from disease and in its operations harmonizing with the general laws of the animal economy.

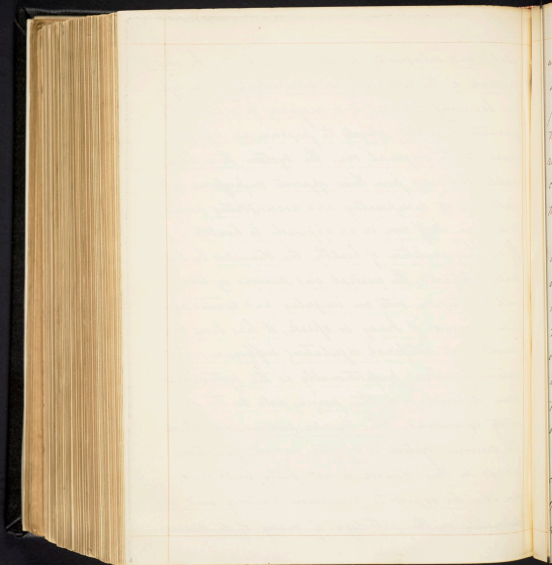
In the illustration of these laws and their application to a diseased state of the system, the effects of an habitual and immoderate use of acedent spirits may be cited.

If we administer to a stomach unaccustomed to the alcoholic impression a certain quantity of this liquid, the first effect produced is that of a diffusable stimulant as evinced by a general and puternatural excitement of the organs and functions generally and of some more particularly: from the close and ready sympathy existing between the stomach and brain in a healthy state, the functions of this latter organ are especially stimu-

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ulated and subsequently depressed or impaired. In consequence of the excitability or susceptibility of impulsion becoming obtunded, it is necessary to increase the quantity of ardent spirits to produce an effect equal to the original one: the system thus alternately suffering from these opposite impurities calls forth all its recuperatory and accommodating powers to sustain itself even in an approach to health—

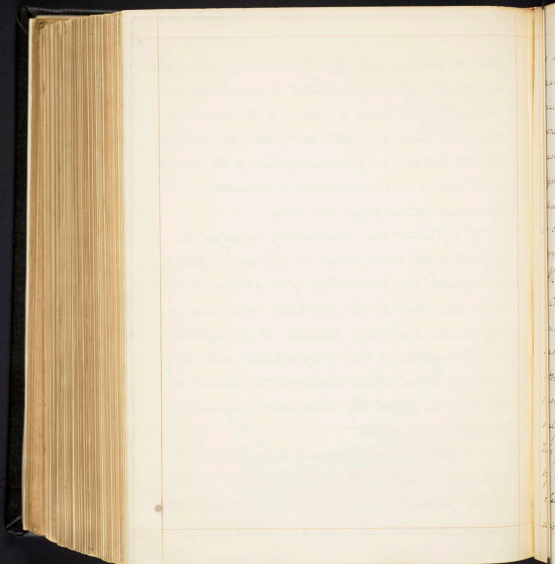
If in this condition of health, the stimulus be suddenly abstracted, the cerebral and nervous system will be thrown into an irregular and excited action, because if I may so speak, it has been deprived of its artificial regulating influence: and ceteris paribus, proportionably as the system has been dependent on this power, will be the severity experienced. The precise manner in which the nervous system is affected and its functions varied in this disease is not fully understood, nor can we expect to pronounce positively and definitely on the pathology of many of its diseases.



untill its anatomy and physiology are more thoroughly investigated. However paradoxical it may seem, it follows, that this disease is produced by the absence of the remote cause or in other words, that the immoderate and habitual use of ardent spirits is the remote cause and its sudden cessation or discontinuance the immediate or proximate cause.

If a patient has immoderately indulged for a greater or less period of time in the use of spirituous liquors and particularly if in addition to his usual quantum he has partaken more freely of this poison a few days previous to its cessation or intermission, a train of symptoms will be developed which I will endeavour to present in the order in which they have most frequently occurred to my notice.

After the exhilarating and immediate depressing effects of the stimulus have passed off, the patient complains of want of appetite, nausea, sick head-ach: his accustomed draught



is excited, thirst for water is extreme, the countenance is anxious, tongue is slightly furred, its circulation is active whilst that of the skin is generally languid, the bowels are costive or occasionally laxative. Although most of these symptoms generally precede those having a more direct bearing on the disease, I have viewed them as consequent on "hard drinking" rather than symptoms of Delirium Tremens; at least I have seen all these appearances in drunkards who have never experienced the disease, and I am equally sure that I have seen a few cases in which they have all been completely absent. The patient now retires to bed, but is restless and cannot sleep; if he dozes it is only for a short time, he suddenly starts from his pillow with a choking sensation or is roused by some appalling dream; tremors of the muscles of the tongue and hand now become visible, then afterwards become general.

1840

1. The first of the year was a very cold one, and the weather was very disagreeable. The wind was very strong, and the rain was very much.

2. The second of the year was a very warm one, and the weather was very pleasant. The wind was very light, and the rain was very little.

3. The third of the year was a very cold one, and the weather was very disagreeable. The wind was very strong, and the rain was very much.

4. The fourth of the year was a very warm one, and the weather was very pleasant. The wind was very light, and the rain was very little.

5. The fifth of the year was a very cold one, and the weather was very disagreeable. The wind was very strong, and the rain was very much.

6. The sixth of the year was a very warm one, and the weather was very pleasant. The wind was very light, and the rain was very little.

7. The seventh of the year was a very cold one, and the weather was very disagreeable. The wind was very strong, and the rain was very much.

8. The eighth of the year was a very warm one, and the weather was very pleasant. The wind was very light, and the rain was very little.

9. The ninth of the year was a very cold one, and the weather was very disagreeable. The wind was very strong, and the rain was very much.

10. The tenth of the year was a very warm one, and the weather was very pleasant. The wind was very light, and the rain was very little.

This state of the nerves although not a uniform attendant on the disease forms in a very large majority of cases one of its diagnostic characters.

To these symptoms succeed strange sensations, groundless fears, great restlessness and constant watchfulness—these things continuing a day or more according to the particular circumstances of the case, a delirium of a peculiar character now ensues. The patient fancies a thousand imaginary evils; he is in incessant motion, throws his bed clothes about him, picks at imaginary things, converses with ideal personages; he will call on the attendant to protect him from the machinations of individuals who are besetting his life—Satan and his followers are not infrequently the heroes of his vision: if not comforted he will walk wildly about his room, abuse himself and demand his freedom, stating the necessity of his personal attendance to his affairs.

1. The first thing I noticed when I stepped
out of the car was the cold. It was a
sharp contrast to the warm blanket I had
been sitting under. The air was crisp and
clear, and it felt like a fresh start.
I took a deep breath and felt a sense of
relief. The world was waiting for me, and
I was ready to take on whatever came my
way. I looked up at the sky and saw a
few stars twinkling in the darkness. It was
a beautiful sight, and it made me feel like
I was part of something bigger than myself.
I smiled and felt a sense of peace. I was
home, and I was exactly where I needed to
be.

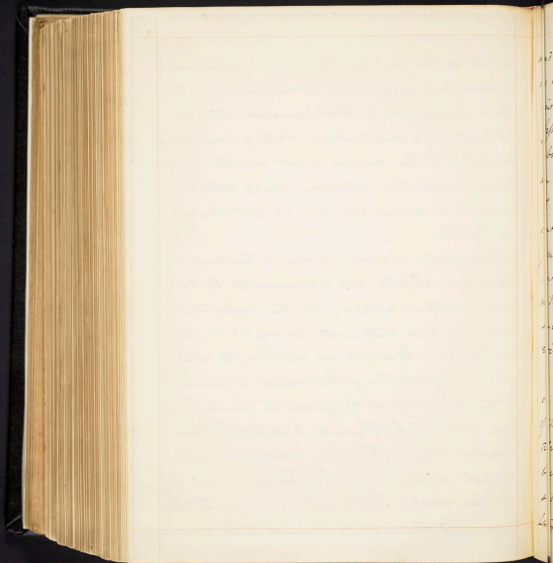
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These hallucinations are almost uniformly of an unpleasant character to the patient; in one instance only have I seen an exemption in this respect.

With this disorder of the cerebral functions, other changes take place or previous symptoms become aggravated. The head is preternaturally hot; the eyes are more wild, the skin is sometimes natural or better in a profuse perspiration - the pulse is full, compressible and somewhat accelerated - the tongue varies in its appearance, in violent cases I have seen it of a bluish aspect, occasionally dry and cracked - in a few instances it has continued moist and natural, the breath is generally offensive - The stomach in general, will receive its ingesta, at other times it is inviolate and repulsive. If then coexist with the delirium an acute inflammation of the pleura or any other tissue, the patient for the most part

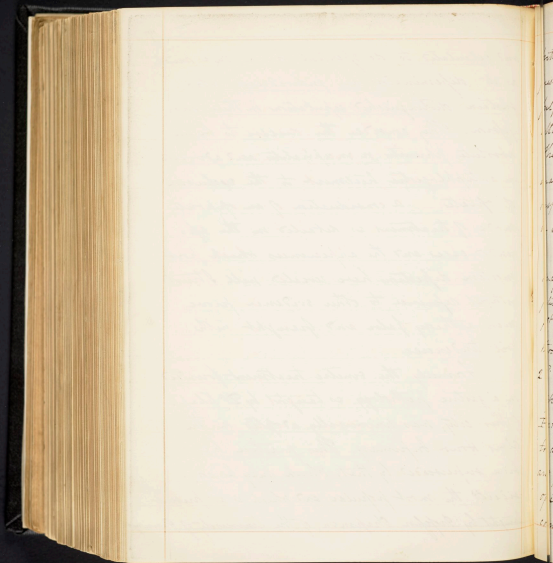
insists on his person from pain: sometimes
he manifests paroxysms of astonishing strength,
these however are of short duration and are
followed by a correspondent state of muscular
debility. If the disease is not arrested, symp-
toms of congestion supervene which often ter-
minate in serous effusion &c and finally
in death.

Treatment. Various modes of treatment
have been adopted and recommended by dif-
ferent authors according to the respective
views they have entertained in regard to its
pathology. It is not my intention, to enter
into a consideration of the merits or demerits
of the reasonings and arguments which have
been adduced by Phlegists to support their
peculiar views. There is however a patho-
logical doctrine which has been advanced by
Professor Joseph Frank and adopted by De Spa-
renza and others which I believe to be erroneous.



and calculated to do special harm, in as much as its determinators are individuals who within distinguished reputations in their profession. They consider the disease to be an absolute phrenitis or encephalitis and advocate an antiphlogistic treatment to the exclusion of opiate. — A consideration of an opposite mode of treatment as detailed in the appended cases and the appearances which post mortem dissections have revealed will I trust without reference to other evidence prove such a theory false and fraught with evil tendencies.

Formerly the emetic treatment founded on a gastric pathology as taught by Dr Klaproth of this city, was universally adopted in the Alms House Infirmary. This practice has been superseded by that, which may be considered the most popular and which is at present taught by Professor Chapman of the University of Pennsylvania.



with a view to the treatment, will endeavor to present in general terms the indications to be fulfilled and the most successful means of obtaining them as practiced in the Almshouse. The minutiae of the treatment and the occasional complication of the disease with a corresponding modification in the cure will be seen in the cases referred to.

The means and remedies employed may be said to be in subservience to the accomplishment of two general indications.

- 1.st To prepare the system for the reception of those remedies calculated to induce sleep.
- 2.nd The administration of those means most speedily effectual in its production.

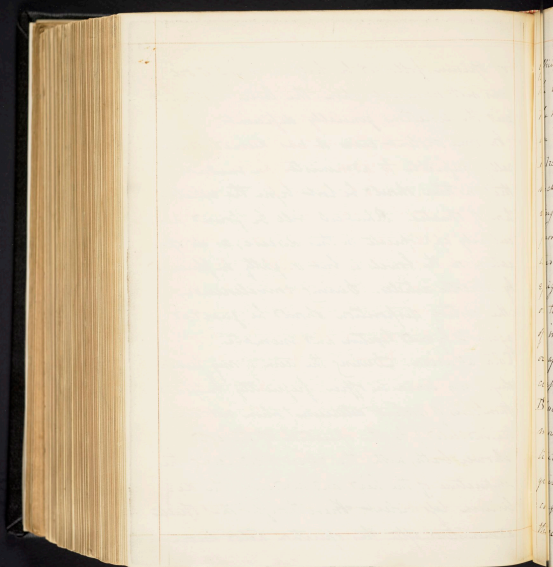
Purgatives. In mild cases it was usual to administer a gentle purge to open the bowels and prepare the stomach for the reception of opiates. Senna and a neutral salt was very common — a purge of calomel with one grain

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of Opium followed by half an ounce of oil was not unusual, when the liver was enlarged and the secretions generally deficient.

In some violent cases it was deemed generally preferable to administer an enema, that no time should be lost before the exhibition of Opium. Rhubarb will be found peculiarly appropriate in this disease, as its operation on the bowels is but slightly influenced by narcotic articles. During convalescence, the costive disposition should be guarded against by mild laxatives and enemata.

Cold affusion. During the term of my juniorship, my senior in office frequently subjected those cases of violent delirium (when not contra-indicated) to the operation of the cold shower bath, with the effect of reducing the temperature of the head and rendering the delirium less violent. These thought that Opium administered after this operation acted more



efficiently. In the winter season for obvious reasons the bath was not used - cold wet cloths applied to the head and an occasional hot pediluvium proved an excellent substitute.

Blisters. a blister applied to the nape of the neck is sometimes to the extremities by directing the circulation of the blood from the brain period of spential service. A blister or mustard plaster was occasionally applied over the epigastrium to compose an irritable stomach or to anker its sensibility to the operation of internal remedies. In the congestive stage after serous effusion had supervened, this class of remedies was invariably had recourse to. }
 Blood-letting. Of venesection I wish to speak more particularly. Bleeding was seldom practiced in this disease unless there was unequivocal evidence of an approaching apoplexy, congestion or inflammatory complication; under these circumstances it was looked upon rather

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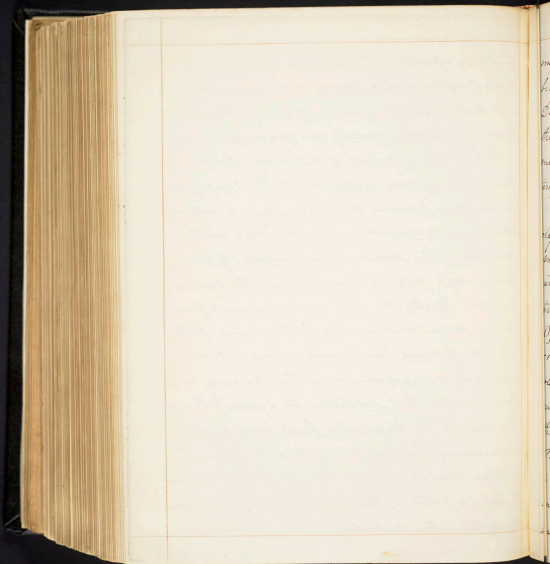
as a choice between two evils. The abstraction of a few ounces of blood by cups was generally preferred to depletion from the arm - these were usually applied to the back of the neck in preference to the scalp, as convulsions or other unpleasant symptoms were in more than one instance, consequent on their application to the latter: they seemed to act on the principle of leeches especially when the skin was not fully manifested.

They who would advocate venesection under the idea that the disease is phrenitis will find something in the history of the following case to batten at or discredit.

There is at present residing in the Almshouse a man of a robust frame by the name of Charles Pancrast, who has been the subject of nineteen successive attacks of Sclerium Tenuis - in two attacks only was he bled and in these as in all the others was he

treated by opiates - If his brain has been the seat of inflammation during each paroxysm, he is at least a living evidence of the antiphlogistic powers of narcotics generally and opium particularly.

It has been a subject of controversy whether "flitting in patients predisposes to this complaint produced or increased it" I have seen a patient, who to use a vulgarism has been "fled into" a paroxysm of this disease, whose energies (if not fled) would probably have fortified the system against the attack. The evidence derived from an "a priori" consideration of the nature of this affection favours this opinion. Does not an approach or approximation to this disease arise from a cause that debilitates the system? Is not the power of the circulating fluid very great in maintaining the vis medicatrix to oppose the further morbid effects of this debilitating cause? If then, a portion of this fluid be abstracted from the system, this renovating power becomes more

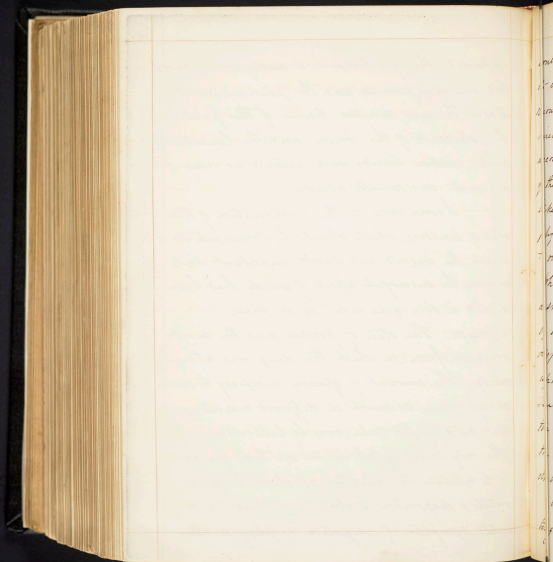


impaired; the equilibrium is destroyed, the morbid tendency prevails and the phenomena of Delirium Tremens result. Aware of this fact the students of the House and the land with much caution towards such patients as were in temperate and recently admitted.

I come now to the consideration of that class of remedies which should be administered to meet the second and most important indication, the successful effect of which has been termed a "sine qua non" in its cure.

Opium. The state of powder was the most common form in which this drug was administered. The amount of opium necessary to insure success varies so much in different individuals, that no specific rule can be laid down.

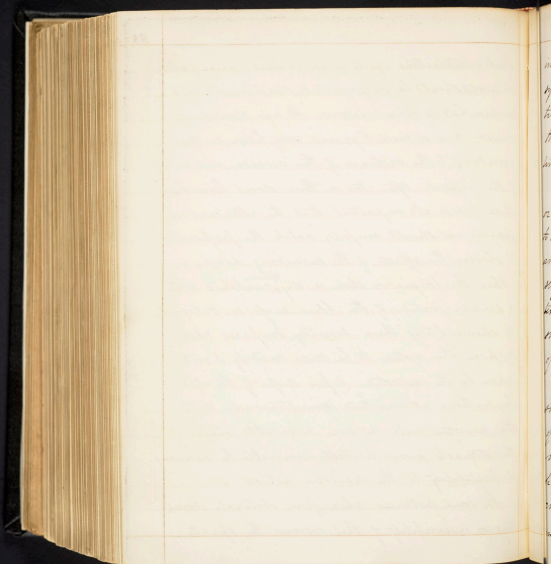
The only rule by which we are to be guided, is to exhibit the narcotic at short intervals, untill a disposition to sleep is manifested or untill symptoms of congestion apoplexy or other



contra-indicating effects or appearances arise, when its use should be suspended or discontinued and recourse had to other measures. It was usual to direct 3, 4 or even 6 grains every hour or two according to the violence of the disease and habits of the patient. After two or three doses have been taken, it is all important that the attendant or physician should carefully watch the patient to observe the effects of the succeeding doses.

When the tongue or skin is dry, ^{opium} combined with a small portion of the blue-mass or calomel, by stimulating these secretory surfaces will dispose the system to be more readily acted upon by the narcotic. A few drops of the Opt. Sumbathine administered simultaneously with the narcotic will in some insensible states of the stomach prove decidedly serviceable by avoiding its irritability to the narcotic action.

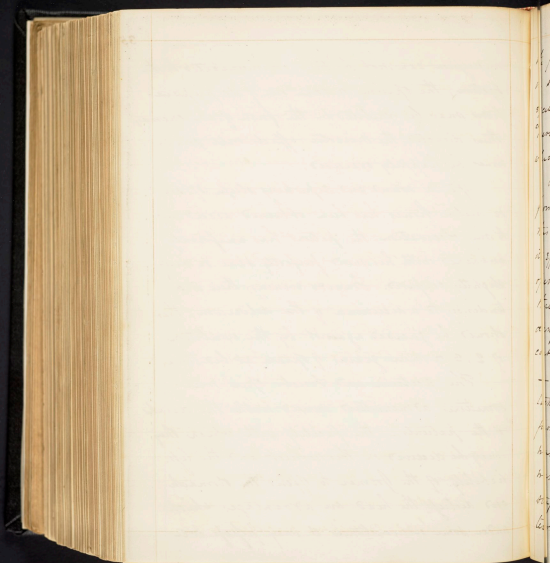
In some instances when from obstinate vomiting or insensibility of the rectum the opiate



impression can not be thus communicated to the system, the opium or some one of its preparations may be exhibited in the form of an enema, thus directed the narcotic effect will sometimes be happily exercised.

after a sound and refreshing sleep of six or twelve hours has been obtained according to my observation the patient has uniformly awakened with his mind perfectly serene or very slightly confused. Towards evening, there is a tendency to a recurrence of the delirium; this should be guarded against by the exhibition of 2, 3 or more grains of opium at bed-time.

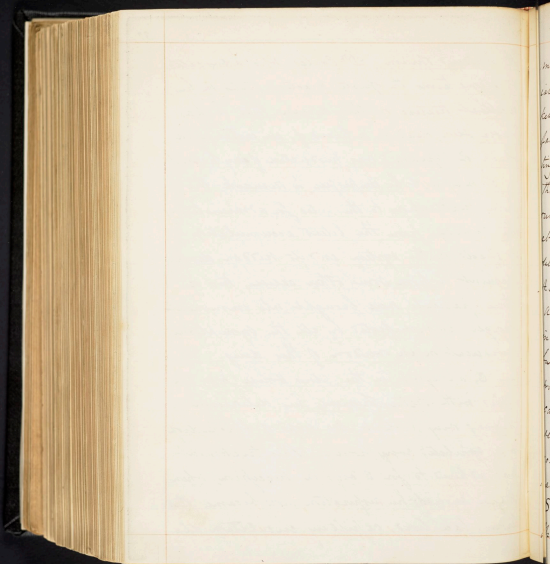
The acetum and Tinct opii were sometimes administered mixed with the drinks of the patients - the facility with which they may be deceived in this respect and the less liability of the former to offend the stomach and disturb the head are advantages which under some circumstances it may possess over



the praiseworthy opium. Dr Coates who advocates in strong terms the opiate practice states in his excellent treatise on this disease, that he has "never seen, read of, or heard of, an instance in which it (opium) was productive of any harm."

It may not be improper to remark that from inattention to the rules for administering this remedy, from the latent accumulation of its effects in the system and its hidden development or from some other cause, two or three patients were brought into imminent danger as manifested by all the symptoms consequent on an overdose of this drug.

— C, an agent in the almshouse was attacked with Delir. Tremens; his delirium proving very violent, 20 drops of Black-drops was exhibited every hour — This treatment was arduous to for 3 days in succession, when stupor ensued; his respiration now became stertorous, face livid, capillary circulation ab-

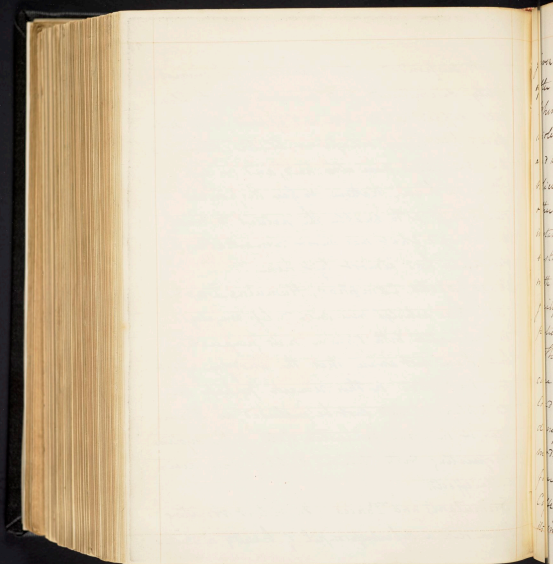


most suspended: the narcotic was immediately discontinued and recourse had to bladders dipped in hot water and applied to the surface; hot bricks, sinapisms, blisters, stimulating enemata were also used, and in less than an hour, nature so far responded to our efforts as to enable the patient to walk about and what was most remarkable, his delirium had almost left him.

Assafoetida, Camphor, Humulus Lup &c.

All these articles were more or less employed in combination with opium or its preparations, but I am not aware that the anodyne effect was improved: in this remark perhaps the camphor should not be included, as I have seen it in some exhausted states of the system cooperating with opium display very desirable effects.

Stimulants and Tonics. In violent vomiting I have seen a desperate prompt of brandy or whiskey



given at short intervals compose the stomach after all the usual remedies had failed.

When the system is much reduced, delirium violent, skin and tongue moist, pulse weak and soft and especially if the patient eagerly solicits spirituous drinks; brandy or some other species of alcohol may be taken in some instances to a very great extent, with the effect of sustaining the vital powers and co-operating with opiates in the production of sleep. In a majority of cases Porter was freely drunk by the patients to the exclusion of ardent spirits.

The diet should be of a nourishing kind; care is to be observed however that we do not overload the stomach, especially when there is a tendency to congestion in the brain. Chicken soup moderately spiced or the essence of beef and the farinaceous articles may constitute the diet. Coffee is very grateful to the patient and from its invigorating powers answers well. Suing con-

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valeriana in addition to the above, Sulph of Quinine, Carb. Ammon, capsicum, Balsam of Columbo and Ginger tea are invaluable tonics in restoring the digestive apparatus and imparting strength to the general system.

The case observed in the following cases have a reference to their degree of severity and manner of termination; in this way, the character and management of the disease will be best illustrated.

Wat Davis. admitted June 13th 1824.

Symptoms on admission. Has general tremors, mind irrational, very restless, determination of blood to head producing pain, skin dry and hot, feet cold, eyes injected, pulse frequent and hard, bowels costive. Directed Senna tea, cups to back of head, followed by cold applications - hot pediluvium.

Evening Found his head relieved by the cups, skin moist, tongue natural - Directed acet Opii gutt. I.

14th Reported some last night, which has diminished his tremors and delirium. Directed small doses of acet Opium during the day and xxx drops at night. Sute for drink.

15th Slept all night and is now quite sane.

Colonel John Pluck. admitted Jan 15th 1827.

Symptoms. Face flushed, head hot, skin warm and dry, pulse accelerated, tongue foul, has some tremors and is slightly at intervals. Directed cups to back of neck and a purge of Senna and Magnesia.

16th has quite irrational all night and is now very talkative and restless - his mind is turned on the subject of tactics, has lips flush of face, discharges very dark and offensive, pulse full tremors abated, pupils somewhat contracted.

Directed $\begin{array}{l} \text{Pulv. \& separated 3ij} \\ \text{Siste Opium 3ij} \\ \text{aq. Menth 3j} \\ \text{tr} \end{array} \left. \vphantom{\begin{array}{l} \text{Pulv. \& separated 3ij} \\ \text{Siste Opium 3ij} \\ \text{aq. Menth 3j} \\ \text{tr} \end{array}} \right\} \text{3j every hour}$

Evening. Delirium continues, skin nearly perspirable

Directed Pulv. Opium gr v q.t.h.

17th after taking 3 powders sleep ensued which lasted for 3 hours when he was accidentally awakened - seems

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droopy and inclined to sleep again. Directed Opium gr^v.
Evening. Has been asleep nearly all day and is now
rational.

Robt Deacock at 28 admitted March 15th

This patient has been the frequent subject of delirium tremens
his attacks have been remarkable for their severity and
duration: in one paroxysm his reason was not restored
under six weeks.

Symptoms. Has all the signs that characterize the
disease, is in constant agitation, annoyed by "black devils
and cats" that are gamboling about his room. - Bowels
opened by an enema last night, tongue moist and
coated with a light brown fur. Directed Puls^o Opⁱ
gr 1v. q. b. h. Poter for drink.

Evening. Has taken 5 powders, mind is more composed,
looks droopy. Directed the common enema of the
house - a large opiate to be immediately given.

This morning, found him in a refreshing sleep and
did not disturb him. P.M. He awoke at noon quite
rational. Directed an opiate at night.

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Androm Anderson. at 25. admitted March 5th 1828.

Symptoms. A rattling, has no delirium, says he is troubled with diarrhoeable diseases, perspires profusely. Pulse is soft and full, tongue nearly natural.

Directed. Porter for drink - one grain of Opium q.h. Evening. After taking 4 grs he slept some, but awoke with confused delirium, he passed his urine for the first time since yesterday morning. Perspiration continues to be profuse. Directed. Opii pulv gr iij q.h.

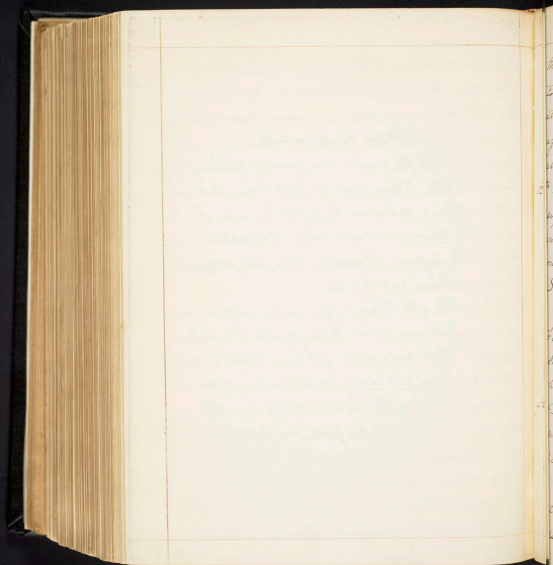
Enema of Senna and Manna.

He slept a little after taking 9 grs. pulse is soft and calm after the bowels are opened the perspiration diminished.

Directed. Opii pulv gr iv. q.h. - Porter to drink

He took 3 powders and dozes at intervals - delirium continues, conceits that he will shortly die, but is somewhat reconciled to his fate, complains of headache. Directed. Opii grs iv q.h.

He was informed by the nurse that he slept about 4 hours after he had taking 12 grs. - When he awoke his mind was less fanciful. Directed. Cl. Piccini



the opium to be renewed after its operation.

Evening. On entering the room I found him in an attitude expressive of great terror, holding himself against the wall under the idea that it was about to crush him. Directed Opium gr V.

7th has informed that he took 4 powders, sleep now supervised which lasted 8 hours. He is now rational and complains of soreness of his muscles. Discharged on the following day.

Sarah Ross. at 32. Full habit of body.

This patient was admitted in a clinical ward Feb 1st with well marked symptoms of Hamatomenia she had several convulsions before and after admission. her pulse being full I directed her to be cupped.

8th Dr Jackson saw her and directed 4 cups to the head. Magnesia and Rhubarb to open bowels. Mustard plaster to epigastrium.

R Sacch Saturni gr^{ss}
Cassia Rosae q.s. Mf^{ss} pil. q. S. S.

Directed in effete enemata. Same weak lemonade for diet. On the evening I found her with all the

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symptoms of Delirium tremens and directed her removal to the cells.

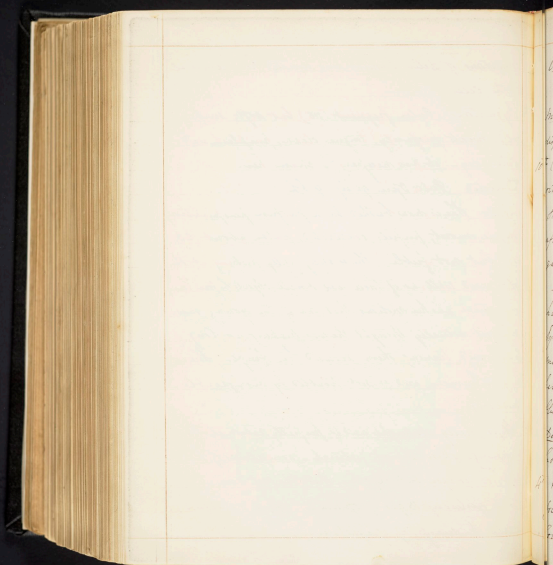
• Symptoms. Pulse frequent (115) but soft, surface cold, sweats profusely, tongue clean, purplish and rather dry - it was necessary to chain her.

Directed *Pala. Opii gr iij q.s.s.*

Night. She is now better in a profuse perspiration, tongue moist, pupils contracted, pulse about 120, soft but not feeble. She is incessantly picking at the floor and wall as if there was small objects before her, in actual wakeful motions that one of the young men present actually thought she was picking up long hairs and turning them around her finger. She is in good humor and is not troubled by disagreeable visions.

• Slept nearly all night and is perfectly rational this morning. Skin almost natural - complains of headache, is hoarse but says her throat is not sore -

Took yesterday 18 grs of opium. Has considerable tenderness of epigastrium.



Ordered R. Magnesia 3j
 Fe. Chin comp 3j. 3j p. r. n.
 2j. Menth 3j.
 Sacch alb 3j

Midnight Says she does not feel well and is indisposed to sleep. R. Puls: 70 in 15

1st Continues rational, pulse, skin and tongue in good order. Has some head-ache - allowed Porter.

She was returned to the clinical ward and shortly afterwards discharged apparently cured of her gastric affection.

— Denty at 37 admitted above: 3rd. Of full habit and sanguine temperament.

Symptoms. Eyes red and injected, skin cool, determination of blood to head productive of pain, incoherence of speech, centre of tongue covered with a bluish fur, edges white and moist, white gen.

Directed head to be shaved, cups to back of neck, hot pediluvium. Rational food for diet.

1st Head relieved, no change in other respects. Porter for drink. Evening. Disposition to sleep, bowels bound. Directed a purge of Calomel & Calyp. 3j. 3j. 3j. 3j. 3j.

Handwritten text, mostly illegible due to fading and bleed-through from the reverse side. The text appears to be organized into several paragraphs or sections, with some lines being more distinct than others. The ink is light and the paper is aged and yellowed.

* The discharge brought away by the purge was of a dark colour, pulse small and languid, capillary circulation also languid, pupils contracted, has more stupor, her arms will rest in any position in which they are placed. Thirst great, no appetite.

Directed camphor mixture, sinapisms to extremities, brandy today. Dr. Hodge now saw her, approved of the treatment and ordered in addition, her head to be shaved and blistered, a stimulating enema was also administered. P.M. Stupor increasing, face more flushed and livid, pupils contracted to the size of a pin's head, respiration heaving, pulse improved. Evening. Is almost rational, owing probably to the vapors relieving themselves by effusion, respiration irregular.

Directed stimulating frictions, carbonate of ammonia, hot bricks &c &c Died at evening.

Autopsis. Stomach of a light-pink colour, mucous coat natural as to thickness. Liver enlarged. Brain. On cutting through the scalp, its vessels

1840
The first of the year was a very
cold one, and the weather was
very disagreeable. The wind was
very strong, and the rain was
very much. The snow was very
much, and the ice was very
much. The weather was very
disagreeable, and the wind was
very strong. The rain was very
much, and the snow was very
much. The ice was very much.
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snow was very much. The ice was
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disagreeable, and the wind was
very strong. The rain was very
much, and the snow was very
much. The ice was very much.

were found very much congested, the vessels of the pia mater injected with dark venous blood - on the surface and at the ~~brain~~ base of the brain there was a little effusion. The fifth ventricle was found greatly distended with pure serum - the other ventricles were found to contain more or less of the same fluid, the vessels were also congested.

Ellen Mooney, at 30. of full habit
admitted Nov. 22nd has been very intemperate
for the last six months.

Symptoms. This patient had several convulsions
before her admission; for which she had been bled.

Face pale, head rather warm, eyes natural,
capillary circulation languid, feet cold, pulse
not perceptible, respiration hurried, speech in-
distinct and incoherent.

Directed frictions of Spts. Sicutinaria and vac-
ma of the same combined with mucilage, flying
sinapisms, whiskey to be freely drunk.

Evening. Is somewhat improved, pulse well de-

[Faint, illegible handwriting, likely bleed-through from the reverse side of the page.]

colours, skin warm, no other change.

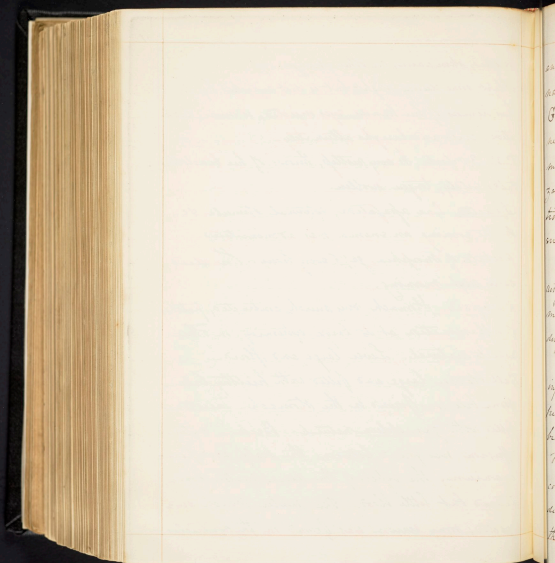
23 Slept some during night but is not refreshed by it, has tremors of her hands, eyes injected, is more talkative, cries and laughs alternately.

P.M. 3 o'clock. Is very restless, throws off her bedclothes talks wildly, tongue swollen.

Director Lac apapetona, opiumal stimuli &c. In the evening an enema was administered - acetate of Morphia gr'ss every hour. She died early next morning.

Autopsies. Stomach very much contracted, patches of inflammation at its large extremity, in other respects natural. Liver large and flaccid -

Gall-bladder large and filled with healthy bile - some bile was found in the stomach - intestines filled with gas, spleen natural. Brain - autopsy effusion was found between the scalp and pericranium, the vessels of the dura mater contracted but little blood. Pia mater much injected, some serum was found in the ventricles



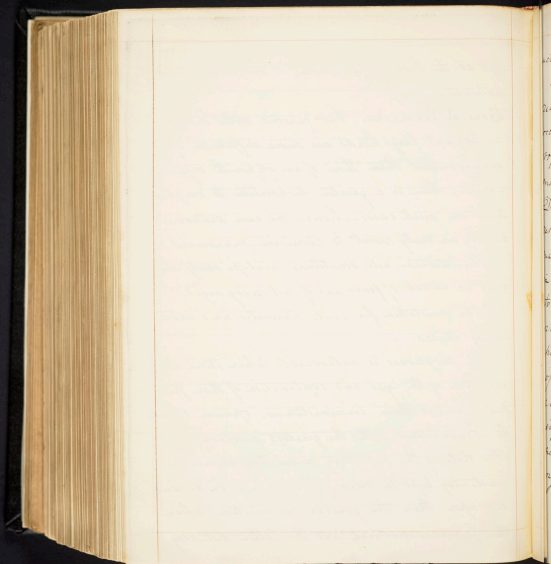
and at the base of the brain, its substance was natural.

General Remarks. Fat persons with short necks and large heads are more difficult of management than those of an opposite organization; there is a greater disposition to congestion in such cases—hence we can seldom see by an early resort to revulsive measures.

This disease will sometimes develop itself during an attack of fever and if not recognized, may be mistaken for acute pharyngitis and accordingly treated.

The prognosis is unfavorable when there is injection of the eyes and contraction of their pupils—under these circumstances, opium should be administered with the greatest caution.

The state of the capillary circulation should be constantly kept in view and is more to be depended upon than the general circulation; when the former is natural and the latter not very



active, narcotics may be administered with safety.

Convulsions I have rarely seen and there is reason to believe that they are of more frequent occurrence when the emetic treatment was in vogue. — Relapses in this disease are more mild than the original attack.

Dr. Ashmead, who resided himself (during a residence of two years in the almshouse Infirmary) of every opportunity to examine the brain in this disease, informs me, that according to the result of his observation, the congestion and effusion of the brain were in an inverse proportion; that he occasionally found an opacity of the arachnoid membrane especially at the base of the brain indicative of chronic inflammation: he further states that he has never witnessed an acute phlogosis of that organ, in patients who have died of this disease.

